

# B3...VS Series, 3-Way, Ball Valve Bronze Body, Stainless Steel Ball and Stem



- 316 Stainless Ball and Stem
- Reinforced PTFE seats and stuffing box
- Blow-out proof stem design
- Adjustable packing gland

## Application

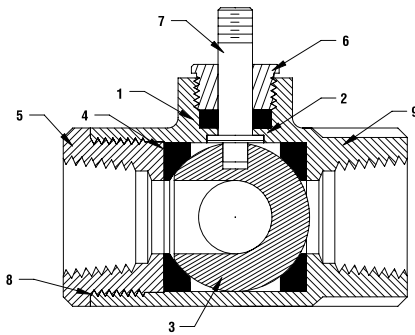
These threaded valves are designed to provide modulating or two position control of hot or chilled water.

Typical applications include reheat coils, VAV terminal control, unit ventilators, and air handlers, especially in areas which have minimum profile requirements.

- 400 PSIG WOG, Cold Non-Shock

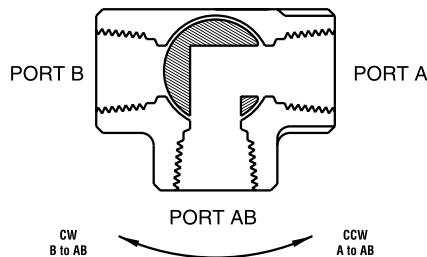
Technical Data	
Media	chilled or hot water, glycol
Flow characteristic	modified equal percentage
Action	90° rotation A to AB open CCW, B to AB open CW
Sizes	½", ¾", 1", 1¼", 1½", 2"
Type of end fitting	SAE NPT (female connection)
Materials:	
1 Stem Packing	PTFE
2 Stem Bearing	PTFE
3 Ball	316 Stainless Steel
4 Seat (x2)	PTFE w/ Durafill
5 Retainer	B16 (½" - 1") Brass B584 (1¼" - 2") Brass
6 Gland	ASTM B16 Brass
7 Stem	316 Stainless steel
8 Jam Nut	PTFE (1¼" - 2")
9 Body Seal	B584-C84400 Bronze

C <sub>v</sub>	Valve Nominal Size		Type	Suitable Return Actuators		
	Inches	DN [mm]		Spring		Non-Spring
4.8	½	15	B315VS	LF	NF	LM
11	¾	20	B320VS	NF		NM Series
21	1	25	B325VS	AF Series		
33	1¼	32	B332VS			AM
49	1½	40	B340VS			GM Series
91	2	50	B350VS			



Pressure rating	400 psig WOG
Media temp. range	-22°F to 250°F (-30°C to 120°C)
Close-off pressure	400 psig @ 100°F
Maximum differential pressure (ΔP)	<75 psig

## Flow Patterns



IM40006 - 05/10 - Subject to change. © Belimo Aircontrols (USA), Inc.

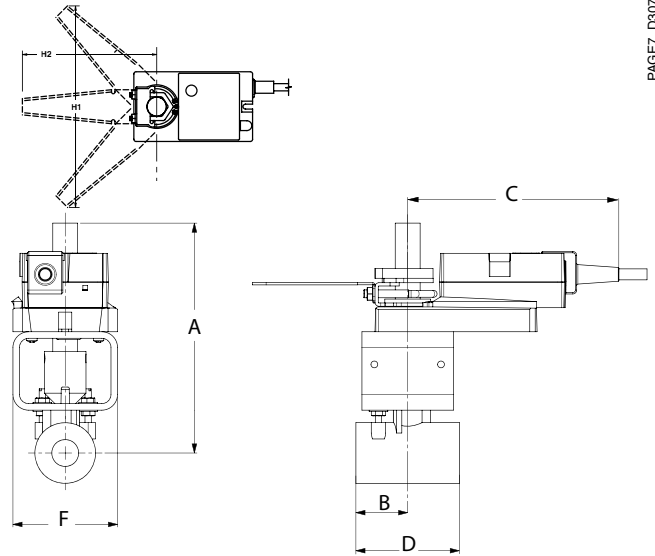


### Models

NMB24-3-X1  
NMX24-3-X1

Technical Data	
Control	on/off, floating point
Power supply	24 VAC ± 20% 50/60 Hz 24 VDC ± 10%
Power consumption	running 2.0 W
	holding 0.2 W
Transformer sizing	4 VA (class 2 power source)
Electrical connection	3 ft, 18 GA plenum rated cable
NMB24-3-X1	½" conduit connector
Overload protection	electronic throughout 0° to 95° rotation
Input impedance	600 Ω
Angle of rotation	max 95°, adjustable with mechanical stop
Torque	90 in-lb [10 Nm]
Direction of rotation	reversible with  switch =CCW with decreasing control signal (10-2V) =CW with decreasing control signal (10-2V)
Position indication	reflective visual indicator (snap-on)
Manual override	external push button
Running time	95 seconds, constant independent of load
Humidity	5 to 95% RH non-condensing (EN 60730-1)
Ambient temperature	-22° F to 122° F [-30° C to 50° C]
Storage temperature	-40° F to 176° F [-40° C to 80° C]
Housing	NEMA type 2/IP54
Housing material	UL94-5VA
Agency listings	cULus according to UL 60730-1/-2-14, CAN/CSA C22.2 No. 24 certified, CE according to 73/23/EEC
Noise level	<45 db(A)
Servicing	maintenance free
Quality standard	ISO 9001

### Dimensions with 2-Way Valve

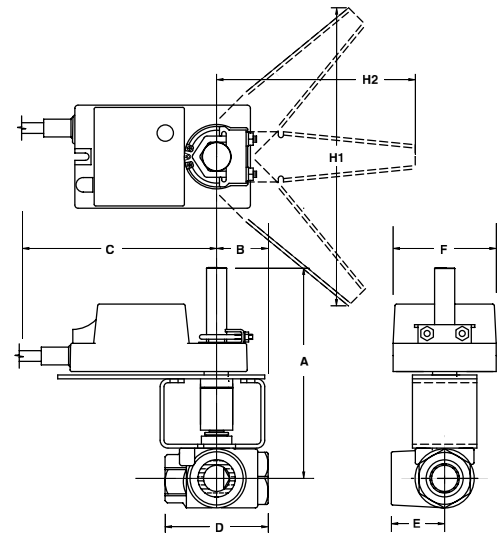


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Valve Nominal Size Dimensions (Inches)

Valve Body	COP	Inches	DN [mm]	A	B	C	D	F	H1	H2
B2075VS-30	400	¾	20	7.30	2.00	8.00	3.00	3.15	9.75	8.50
B2075VS-51	400	¾	20	7.30	2.00	8.00	3.20	3.15	9.75	8.50
B2100VS-43	400	1	25	7.40	2.00	8.00	3.40	3.15	9.75	8.50
B2075VSS-30	1000	¾	20	7.30	2.00	8.00	3.00	3.15	9.75	8.50
B2100VSS-43	1000	1	25	7.40	2.00	8.00	3.40	3.15	9.75	8.50

### Dimensions with 3-Way Valve



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Valve Nominal Size Dimensions (Inches)

Valve Body	COP	Inches	DN [mm]	A	B	C	D	E	F	H1	H2
B315VS	200	½	15	6.70	1.50	6.88	2.82	1.62	3.15	9.75	8.50
B320VS	75	¾	20	6.70	1.50	6.88	2.82	1.62	3.15	9.75	8.50
B325VS	75	1	25	7.00	1.50	6.88	3.56	1.88	3.15	9.75	8.50

## Wiring Diagrams

### INSTALLATION NOTES

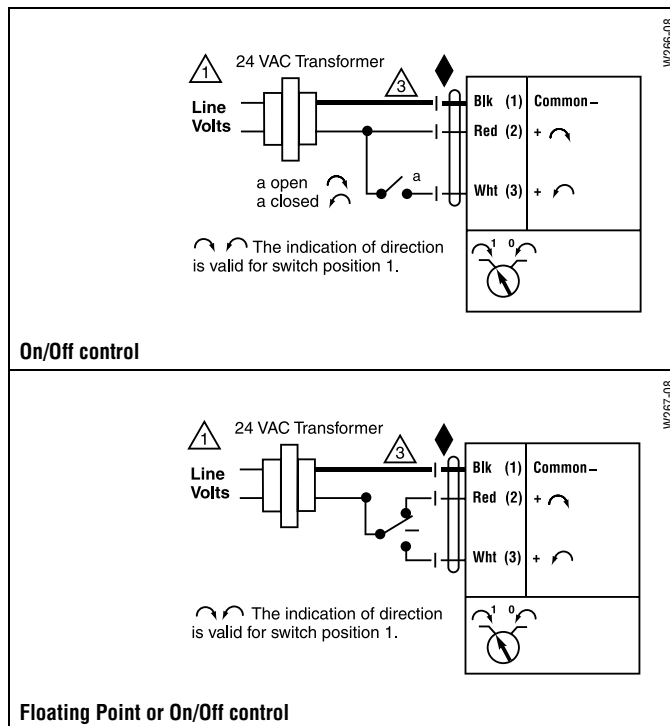
- 1 Provide overload protection and disconnect as required.
- 3 Actuators may also be powered by 24 VDC.

### APPLICATION NOTES

- Meets cULus or UL and CSA requirements without the need of an electrical ground connection.

### WARNING Live Electrical Components!

During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.



### Piping

The valve should be mounted in a weather-protected area in a location that is within the ambient limits of the actuator. Allow sufficient room for valve with actuator and for service. Allow 6" for cover removal and 12" for complete actuator removal. The assembly can be mounted with the actuator vertical or horizontal in relation to the pipe. The actuators should never be mounted underneath the valve, as condensation can build up and result in a failure of the actuators. Do not reverse flow direction.